

Remarks

The above-noted Official Action and the references cited therein have been received and carefully studied.

Entry of the foregoing amendment and reconsideration of the application in view of the above amendment and the following remarks is hereby requested.

Claims 1-24 are now in this case.

Claims 25-51 have been withdrawn from consideration.

Claims 1-3, 6-11, and 15-24 have been allowed.

Claims 4, 5, 12, 13, and 14 are amended herein.

More specifically, claims 4 and 5 have been amended to clarify the meaning of "solvent separable material". That is, the "solvent separable material" is material in the static layer of electrode releasable molecules on the electrodes which is separated from the electrodes by a solvent, such as a body fluid. Support for the amended language is found in the specification on page 9, lines 4-26 which are quoted below with Emphasis Added.

"On the other hand, when the static layer of electrode releasable molecules does include solvent separable material, such as solvent separable solid material, then the static layer of electrode releasable molecules includes both solvent separable solid material and electric field separable molecules. In such a case, a solvent dissolves the solvent separable material thereby releasing the electric field separable molecules from the electrode, and the electric field separable molecules are delivered into the biological cells by the applied electric fields. The solvent includes body fluids which are present in body tissues.

Often, the electrode releasable molecules are in a form of a static coating on the fixed electrode surface. In this respect, the term "static" means that the coating remains stationary on the fixed electrode surface when either not in tissues or not under the influence of an electric field. However, such a static coating moves off of the fixed electrode surface either when it is dissolved off of the fixed electrode surface or when it is driven off of the fixed electrode surface under the influence of either a solvent or a suitable electric field, respectively." [Emphasis Added]"

With respect to claims 12, 13, and 14, to provide proper antecedent basis, the term "material" has been changed to -- molecules-- which is recited in claim 1, and the word "includes" has been changed to --include--.

In addition, claim 13 is amended herein to delete the language "layer of"; and claim 14 is amended herein to delete the word "layer". These amendments have been made because, as the specification teaches, the "nonpolymeric material" and the "polymer" can be either in the form of a layer or in a form which is not a layer. More specifically, the specification teaches the following from page 38 line 8 to page 39 line 28, with Emphasis Added for forms which are not a layer.

"Also, in accordance with an aspect of the invention, a water-insoluble adhesion controlling polymer 52 can be mixed together with electrode releasable molecules 44, and the mixture can be coated onto the electrode underbody 40 to form a fixed electrode surface 42 which is intermingled with the electrode releasable molecules 44. In such a case, when the electrodes are placed next to the biological cells, the water-insoluble adhesion controlling polymer 52 remains fixed

on the electrode underbody 40, and the intermingled electrode releasable molecules 44, which are electric field separable molecules, are driven off of the water-insoluble adhesion controlling polymer 52 and driven into the biological cells.

Alternatively, in accordance with the invention, the adhesion controlling polymer 52 can be water soluble and can be applied to the surface of the electrode underbody 40 which serves as the fixed electrode surface 42. Then, the electrode releasable molecules 44 are coated onto the adhesion controlling polymer 52. In such a case, when the electrodes are placed next to the biological cells, the water-soluble adhesion controlling polymer 52 is dissolved by the body fluids, and both the water-soluble adhesion controlling polymer 52 and the electrode releasable molecules 44 are released from the fixed electrode surface 42. Under the influence of applied electric fields, the electrode releasable molecules 44 are driven into the biological cells.

Alternatively, in accordance with the invention, the adhesion controlling polymer 52 can be water soluble and can be mixed with the electrode releasable molecules 44. The mixture is applied to the surface of the electrode underbody 40 which serves as the fixed electrode surface 42. In such a case, when the electrodes are placed next to the biological cells, the water-soluble adhesion controlling polymer 52 is dissolved by the body fluids, and both the water-soluble adhesion controlling polymer 52 and the electrode releasable molecules 44 are released from the fixed electrode surface 42. Under the influence of applied electric fields, the electrode releasable molecules 44 are driven into the biological cells.

Alternatively, all of the following can be used to coat the electrode underbody 40: a water-insoluble adhesion controlling polymer 52, a water soluble adhesion controlling polymer 52, and electrode releasable molecules 44. In such a case, the water-insoluble molecules remained fixed on the fixed electrode surface 42, and the water-soluble adhesion controlling polymer 52 and the electrode releasable molecules 44 are released from the fixed electrode surface 42

when the electrodes are placed next to the biological cells. The electric fields then drive the electrode releasable molecules 44 into the biological cells.

In general, in one class of methods, polymers are added to the electrode underbody 40 prior to applying the electrode releasable molecules 44, e. g. DNA. In another class of methods, polymers are mixed with electrode releasable molecules 44, e. g. DNA, prior to coating the electrode underbody 40 with the mixture." [Emphasis Added]

It appears that all matters have been addressed satisfactorily, and that the case is now in condition for a complete allowance; and the same is respectfully urged.

In view of the foregoing, it is respectfully requested that all of claims 1-24 be allowed. If the Examiner believes otherwise, or has any comments or questions, or has any suggestions for putting the case in condition for final allowance, the Examiner is respectfully urged to contact the undersigned attorney of record at the telephone number below, so that an expeditious resolution may be effected and the case passed to issue promptly.

Respectfully submitted,

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Date

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